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Director of Policy Analysis  
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**EDUCATION**

Ph.D., Economics, Florida State University, 1995.  
M.S., Economics, Florida State University, 1992.  
M.S., International Affairs, Florida State University, 1988.  
B.A., History, University of West Florida, 1987.  
A.A., Liberal Arts, Pensacola State College, 1985.

Master's Thesis: *Nuclear Power Project Disallowances: A Discrete Choice Model of Regulatory Decisions*

Ph.D. Dissertation: *An Empirical Examination of Environmental Externalities and the Least-Cost Selection of Electric Generation Facilities*

**ACADEMIC APPOINTMENTS**

Louisiana State University, Baton Rouge, Louisiana

**Center for Energy Studies**

|              |   |
|--------------|---|
| 2014-Current | Executive Director                              |
| 2007-Current | Director, Division of Policy Analysis           |
| 2006-Current | Professor                                       |
| 2003-2014    | Associate Executive Director                    |
| 2001-2006    | Associate Professor                             |
| 1999-2001    | Research Fellow and Adjunct Assistant Professor |
| 1995-2000    | Assistant Professor                             |

**College of the Coast and the Environment (Department of Environmental Studies)**

|              |  |
|--------------|--|
| 2014-Current | Professor (Joint Appointment with CES) |
| 2010-Current | Director, Coastal Marine Institute     |
| 2010-2014    | Adjunct Professor                      |

**E.J. Ourso College of Business Administration (Department of Economics)**

|              |                             |
|--------------|-----------------------------|
| 2006-Current | Adjunct Professor           |
| 2001-2006    | Adjunct Associate Professor |
| 1999-2000    | Adjunct Assistant Professor |

Michigan State University, East Lansing, Michigan

**Institute of Public Utilities**

2018-current Senior Fellow

Florida State University, Tallahassee, Florida

**College of Social Sciences, Department of Economics**

1995 Instructor

**PROFESSIONAL EXPERIENCE**

Acadian Consulting Group, Baton Rouge, Louisiana

2001-Current Consulting Economist/Principal  
1995-1999 Consulting Economist/Principal

Econ One Research, Inc., Houston, Texas

1999-2001 Senior Economist

Florida Public Service Commission, Tallahassee, Florida

**Division of Communications, Policy Analysis Section**

1995 Planning & Research Economist

**Division of Auditing & Financial Analysis, Forecasting Section**

1993 Planning & Research Economist  
1992-1993 Economist

Project for an Energy Efficient Florida/FlaSEIA, Tallahassee, Florida

1994 Energy Economist

Ben Johnson Associates, Inc., Tallahassee, Florida

1991-1992 Research Associate  
1989-1991 Senior Research Analyst  
1988-1989 Research Analyst

**GOVERNMENT APPOINTMENTS**

2020-Current Co-Chairperson, Energy Advisory Committee, World Trade Center  
New Orleans, Louisiana.  
2017-Current Member, National Petroleum Council.  
U.S. Department of Energy.  
2007-Current Louisiana Representative, Interstate Oil and Gas Compact  
Commission; Energy Resources, Research & Technology  
Committee.  
2007-Current Louisiana Representative, University Advisory Board  
Representative; Energy Council (Center for Energy,  
Environmental and Legislative Research).  
2005 Member, Task Force on Energy Sector Workforce and Economic  
Development (HCR 322).

|           |  |
|-----------|--|
| 2003-2005 | Member, Energy and Basic Industries Task Force, Louisiana Economic Development Council |
| 2001-2003 | Member, Louisiana Comprehensive Energy Policy Commission.                              |

#### **PUBLICATIONS: BOOKS AND MONOGRAPHS**

1. *Power System Operations and Planning in a Competitive Market.* (2002). With Fred I. Denny. New York: CRC Press.
2. *Distributed Energy Resources: A Practical Guide for Service.* (2000). With Ritchie Priddy. London: Financial Times Energy.

#### **PUBLICATIONS: PEER REVIEWED ACADEMIC JOURNALS**

1. "The Potential Impact of the U.S. Carbon Capture and Storage Tax Credit Expansion on the Economic Feasibility of Industrial Carbon Capture and Storage" (2021). With Brittany Tarufelli and Brian Snyder. *Energy Policy. Forthcoming.*
2. "Current Trends and Issues in Reforming State-level Solar Net Energy Metering Policies." (2020). *Journal of Energy Law and Resources.* Vol. VIII: 419-451.
3. "A cash flow model of an integrated industrial CCS-EOR project in a petrochemical corridor: a case study in Louisiana. (2019). With Brian Snyder and Michael Layne. *International Journal of Greenhouse Gas Control.*
4. "Understanding the challenges of industrial carbon capture and storage: An example in a U.S. petrochemical corridor." (2019). With Michael Layne and Brian Snyder. *International Journal of Sustainable Energy* 38(1):13-23.
5. "Understanding the Mississippi River Delta as a coupled natural-human system: research methods, challenges, and prospects. (2018). With Nina S.N. Lam, Y. Jun Xu, Kam-Biu Liu, Margaret Reams, R. Kelly Pace, Yi Qiang, Siddhartha Narra, Kenan Li, Thomas Blanchette, Heng Cei, Lei Zou, and Volodymyr Mihunov. *Water.*
6. "Understanding the challenges of industrial carbon capture and storage: an example in a U.S. petrochemical corridor." (2018). With Brian Snyder and Michael Layne. *International Journal of Sustainable Energy.*
7. "Sea level rise and coastal inundation: a case study of the Gulf Coast energy infrastructure." (2018). With Siddhartha Narra. *Natural Resources.* 9: 150-174.
8. "The energy pillars of society: perverse interactions among human resource use, the economy and environmental degradation." (2018). With Adrian R.H. Wiegman, John W. Day, Christopher F. D'Elia, Jeffrey S. Rutherford, Charles Hall. *BioPhysical Economics and Resource Quality.* 3(2) 1-16.
9. "Modeling the impacts of sea-level rise, oil price, and management strategy on the costs of sustaining Mississippi delta marshes with hydraulic dredging." (2018). with Adrian R.H. Wiegman, John W. Day, Christopher F. D'Elia, Jeffrey S. Rutherford, James T. Morris, Eric D. Roy, Robert R. Lane, and Brian F. Snyder. *Science of the Total Environment* 618 (2018): 1547-1559.
10. "Identifying Vulnerabilities of Working Coasts Supporting Critical Energy Infrastructure." (2016). With Siddhartha Narra. *Water.* 8(1).

11. "Economies of Scale, Learning Effects and Offshore Wind Development Costs" (2015). With Gregory B. Upton, Jr. *Renewable Energy*. 61-66.
12. "Economic impact of Gulf of Mexico ecosystem goods and services and integration into restoration decision-making." (2014) With Shepard, A.N., J.F. Valentine, C.F. D'Elia, D.W. Yoskowitz. *Gulf Science*.
13. "An Empirical Analysis of Differences in Interstate Oil and Natural Gas Drilling Activity." (2012). With Mark J. Kaiser and Christopher J. Peters. *Exploration & Production: Oil and Gas Review*. 30(1): 18-22.
14. "The Value of Lost Production from the 2004-2005 Hurricane Seasons in the Gulf of Mexico." (2009). With Mark J. Kaiser and Yunke Yu. *Journal of Business Valuation and Economic Loss Analysis*. 4(2).
15. "Estimating the Impact of Royalty Relief on Oil and Gas Production on Marginal State Leases in the US." (2006). With Jeffrey M. Burke and Dmitry V. Mesyazhinov. *Energy Policy* 34(12): 1389-1398.
16. "Using Competitive Bidding As A Means of Securing the Best of Competitive and Regulated Worlds." (2004). With Tom Ballinger and Elizabeth A. Downer. *NRRI Journal of Applied Regulation*. 2 (November): 69-85. (Received 2005 Best Paper Award by NRRI)
17. "Deregulation of Generating Assets and the Disposition of Excess Deferred Federal Income Taxes." (2004). With K.E. Hughes II. *International Energy Law and Taxation Review*. 10 (October): 206-212.
18. "Reflections on the U.S. Electric Power Production Industry: Precedent Decisions Vs. Market Pressures." (2003). With Robert F. Cope III and John W. Yeargain. *Journal of Legal, Ethical, and Regulatory Issues*. Volume 6, Number 1.
19. "A is for Access: A Definitional Tour Through Today's Energy Vocabulary." (2001) *Public Resources Law Digest*. 38: 2.
20. "A Comment on the Integration of Price Cap and Yardstick Competition Schemes in Electrical Distribution Regulation." (2001). With Steven A. Ostrover. *IEEE Transactions on Power Systems*. 16 (4): 940 -942.
21. "Modeling Regional Power Markets and Market Power." (2001). With Robert F. Cope. *Managerial and Decision Economics*. 22:411-429.
22. "A Data Envelopment Analysis of Levels and Sources of Coal Fired Electric Power Generation Inefficiency" (2000). With Williams O. Olatubbi. *Utilities Policy*. 9 (2): 47-59.
23. "Cogeneration and Electric Power Industry Restructuring" (1999). With Andrew N. Kleit. *Resource and Energy Economics*. 21:153-166.
24. "Capacity and Economies of Scale in Electric Power Transmission" (1999). With Robert F. Cope and Dmitry Mesyazhinov. *Utilities Policy* 7: 155-162.
25. "Oil Spills, Workplace Safety, and Firm Size: Evidence from the U.S. Gulf of Mexico OCS." (1997). With O. O. Iledare, A. G. Pulsipher, and Dmitry Mesyazhinov. *Energy Journal* 4: 73-90.
26. "A Comment on Cost Savings from Nuclear Regulatory Reform" (1997). *Southern Economic Journal*. 63:1108-1112.

27. "The Demand for Long Distance Telephone Communication: A Route-Specific Analysis of Short-Haul Service." (1996). *Studies in Economics and Finance* 17:33-45.

#### **PUBLICATIONS: PEER REVIEWED PROCEEDINGS**

1. "Hydraulic Fracturing: A Look at Efficiency and the Environmental Effects of Fracking" (2014). With Emily C. Jackson. *Environmental Science and Technology: Proceedings from the 7<sup>th</sup> International Conference on Environmental Science and Technology*. Volume 1 of 2: edited by George A. Sorial and Jihua Hong. (Houston, TX: American Science Press, ISBN: 978-0976885368): 42-46.
2. "Economic and Policy Issues in Sustaining an Adequate Oil Spill Contingency Fund in the Aftermath of a Catastrophic Incident." (2014). With Stephen R. Barnes and Gregory B. Upton. *Proceedings of the Thirty-seventh AMOP Technical Seminar on Environmental contamination and Response*. June: 506-524.
3. "Technology Based Ethical Issues Surrounding the California Energy Crisis." (2002). With Robert F. Cope III and John Yeargain. *Proceedings of the Academy of Legal, Ethical, and Regulatory Issues*. September: 17-21.
4. "Electric Utility Restructuring and Strategies for the Future." (2001). With Scott W. Geiger. *Proceedings of the Southwest Academy of Management*. March.
5. "Applications for Distributed Energy Resources in Oil and Gas Production: Methods for Reducing Flare Gas Emissions and Increasing Generation Availability" (2000). With Ritchie D. Priddy. *Proceedings of the International Energy Foundation – ENERGEX 2000*. July.
6. "Power System Operations, Control, and Environmental Protection in a Restructured Electric Power Industry" (1998). With Fred I. Denny. *IEEE Proceedings: Large Engineering Systems Conference on Power Engineering*. June: 294-298.
7. "New Paradigms for Power Engineering Education." (1997). With Fred I. Denny. *Proceedings of the International Association of Science and Technology for Development*. October: 499-504.
8. "Safety Regulations, Firm Size, and the Risk of Accidents in E&P Operations on the Gulf of Mexico Outer Continental Shelf" (1996). With Allan Pulsipher, Omowumi Iledare, and Bob Baumann. *Proceedings of the American Society of Petroleum Engineers: Third International Conference on Health, Safety, and the Environment in Oil and Gas Exploration and Production*, June.
9. "Comparing the Safety and Environmental Records of Firms Operating Offshore Platforms in the Gulf of Mexico." (1996). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, William Daniel, and Bob Baumann. *Proceedings of the American Society of Mechanical Engineers: Offshore and Arctic Operations 1996*, January.

#### **PUBLICATIONS: OTHER SCHOLARLY PROCEEDINGS**

1. "A Collaborative Investigation of Baseline and Scenario Information for Environmental Impact Statements" (2005). *Proceedings of the 23<sup>rd</sup> Annual Information Technology Meetings*. U.S. Department of the Interior, Minerals Management Service, Gulf Coast Region, New Orleans, LA. January 12, 2005.

2. "Trends and Issues in the Natural Gas Industry and the Development of LNG: Implications for Louisiana. (2004). *Proceedings of the 51<sup>st</sup> Mineral Law Institute*, Louisiana State University, Baton Rouge, LA. April 2, 2004.
3. "Competitive Bidding in the Electric Power Industry." (2003). *Proceedings of the Association of Energy Engineers*. December 2003.
4. "The Role of ANS Gas on Southcentral Alaskan Development." (2002). With William Nebesky and Dmitry Mesyazhinov. *Proceedings of the International Association for Energy Economics: Energy Markets in Turmoil: Making Sense of It All*. October.
5. "A New Consistent Approach to Modeling Regional Economic Impacts of Offshore Oil and Gas Activities." (2002). With Vicki Zatarain. *Proceedings of the 2002 National IMPLAN Users Conference*: 241-258.
6. "Analysis of the Economic Impact Associated with Oil and Gas Activities on State Leases." (2002). With Dmitry Mesyazhinov, Robert H. Baumann, and Allan G. Pulsipher. *Proceedings of the 2002 National IMPLAN Users Conference*: 149-155.
7. "Do Deepwater Activities Create Different Impacts to Communities Surrounding the Gulf OCS?" (2001). *Proceedings of the International Association for Energy Economics: 2001: An Energy Odyssey*? April.
8. "Modeling the Economic Impact of Offshore Activities on Onshore Communities." (2000). With Williams O. Olatubi. *Proceedings of the 20<sup>th</sup> Annual Information Transfer Meeting*. U.S. Department of Interior, Minerals Management Service: New Orleans, Louisiana.
9. "Empirical Challenges in Estimating the Economic Impacts of Offshore Oil and Gas Activities in the Gulf of Mexico" (2000). With Williams O. Olatubi. *Proceedings of the International Association for Energy Economics: Transforming Energy Markets*. August.
10. "Asymmetric Choice and Customer Benefits: Lessons from the Natural Gas Industry." (1999). With Rachelle F. Cope and Dmitry Mesyazhinov. *Proceedings of the International Association for Energy Economics: The Only Constant is Change* August: 444-452.
11. "Modeling Electric Power Markets in a Restructured Environment" (1998). With Robert F. Cope and Dan Rinks. *Proceedings of the International Association for Energy Economics: Technology's Critical Role in Energy and Environmental Markets*. October: 48-56.
12. "Assessing Environmental and Safety Risks of the Expanding Role of Independents in E&P Operations on the Gulf of Mexico OCS." (1996). With Allan Pulsipher, Omowumi Iledare, Bob Baumann, and Dmitry Mesyazhinov. *Proceedings of the 16<sup>th</sup> Annual Information Transfer Meeting*. U.S. Department of Interior, Minerals Management Service: New Orleans, Louisiana: 162-166.
13. "Comparing the Safety and Environmental Performance of Offshore Oil and Gas Operators." (1995). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyazhinov, William Daniel, and Bob Baumann. *Proceedings of the 15<sup>th</sup> Annual Information Transfer Meeting*. U.S. Department of Interior, Minerals Management Service: New Orleans, Louisiana.

### **PUBLICATIONS: BOOK CHAPTERS**

1. "The Role of Distributed Energy Resources in a Restructured Power Industry." (2006). In *Electric Choices: Deregulation and the Future of Electric Power*. Edited by Andrew N. Kleit. Oakland, CA: The Independent Institute (Rowman & Littlefield Publishers, Inc.), 181-208.
2. "The Road Ahead: The Outlook for Louisiana Energy." (2006). In *Commemorating Louisiana Energy: 100 Years of Louisiana Natural Gas Development*. Houston, TX: Harts Energy Publications, 68-72.
3. "Competitive Power Procurement An Appropriate Strategy in a Quasi-Regulated World." (2004). In *Electric and Natural Gas Business: Using New Strategies, Understanding the Issues*. With Elizabeth A. Downer. Edited by Robert Willett. Houston, TX: Financial Communications Company, 91-104.
4. "Alaskan North Slope Natural Gas Development." (2003). In *Natural Gas and Electric Industries Analysis 2003*. With William E. Nebesky, Dmitry Mesyazhinov, and Jeffrey M. Burke. Edited by Robert Willett. Houston, TX: Financial Communications Company, 185-205.
5. "Challenges and Opportunities for Distributed Energy Resources in the Natural Gas Industry." (2002). In *Natural Gas and Electric Industries Analysis 2001-2002*. Edited by Robert Willett. With Martin J. Collette, Ritchie D. Priddy, and Jeffrey M. Burke. Houston, TX: Financial Communications Company, 114-131.
6. "The Hydropower Industry of the United States." (2000). With Dmitry Mesyazhinov. In *Renewable Energy: Trends and Prospects*. Edited by E.W. Miller and A.I. Panah. Lafayette, PN: The Pennsylvania Academy of Science, 133-146.
7. "Electric Power Generation." (2000). In the *Macmillan Encyclopedia of Energy*. Edited by John Zumerchik. New York: Macmillan Reference.

### **PUBLICATIONS: BOOK REVIEWS**

1. Review of ***Renewable Resources for Electric Power: Prospects and Challenges***. Raphael Edinger and Sanjay Kaul. (Westport, Connecticut: Quorum Books, 2000), pp 154. ISBN 1-56720-233-0. *Natural Resources Forum*. (2000).
2. Review of ***Electricity Transmission Pricing and Technology***, edited by Michael Einhorn and Riaz Siddiqi. (Boston: Kluwer Academic Publishers, 1996) pp. 282. ISBN 0-7923-9643-X. *Energy Journal* 18 (1997): 146-148.
3. Review of ***Electric Cooperatives on the Threshold of a New Era*** by Public Utilities Reports. (Vienna, Virginia: Public Utilities Reports, 1996) pp. 232. ISBN 0-910325-63-4. *Energy Journal* 17 (1996): 161-62.

### **PUBLICATIONS: TRADE AND PROFESSIONAL JOURNALS**

28. "Opportunities for Carbon Capture, Utilization and Storage in Louisiana." (2020). *LOGA Industry Report*. Summer: 18-21.
29. "The Challenges of the Regulatory Review of Diversification Mergers." (2016). With Michael W. Deupree. *Electricity Journal*. 29 (2016): 9-14.

30. "Unconventional Natural Gas and the U.S. Manufacturing Renaissance" (2013). *BIC Magazine*. Vol. 30: No. 2, p. 76 (March).
31. "Louisiana's Tuscaloosa Marine Shale Development: Emerging Resource and Economic Potentials" (2012). *Spectrum*. January-April: 18-20.
32. "The Impact of Legacy Lawsuits on Louisiana's Conventional Drilling Activity" (2012). *LOGA Industry Report*. Spring 2012: 27-34.
33. "Value of Production Losses Tallied for 2004-2005 Storms." (2008). With Mark J. Kaiser and Yunke Yu. *Oil and Gas Journal*. Vol. 106.27: 32-26 (July 21) (part 3 of 3).
34. "Model Framework Can Aid Decision on Redevelopment." (2008). With Mark J. Kaiser and Yunke Yu. *Oil and Gas Journal*. Vol. 106.26: 49-53 (July 14) (part 2 of 3).
35. "Field Redevelopment Economics and Storm Impact Assessment." (2008). With Mark J. Kaiser and Yunke Yu. *Oil and Gas Journal*. Vol. 106.25: 42-50 (July 7) (part 1 of 3).
36. "The IRS' Latest Proposal on Tax Normalization: A Pyrrhic Victory for Ratepayers," (2006). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 55(1): 217-236
37. "Executive Compensation in the Electric Power Industry: Is It Excessive?" (2006). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(4): 913-940.
38. "Renewable Portfolio Standards in the Electric Power Industry." With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(3): 693-706.
39. "Regulating Mercury Emissions from Electric Utilities: Good Environmental Stewardship or Bad Public Policy? (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54 (2): 401-424
40. "Using Industrial-Only Retail Choice as a Means of Moving Competition Forward in the Electric Power Industry." (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(1): 211-223
41. "The Nuclear Power Plant Endgame: Decommissioning and Permanent Waste Storage. (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (4): 981-997
42. "Can LNG Preserve the Gas-Power Convergence?" (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (3):783-796.
43. "Competitive Bidding as a Means of Securing Opportunities for Efficiency." (2004). With Elizabeth A. Downer. *Electricity and Natural Gas* 21 (4): 15-21.
44. "The Evolving Markets for Polluting Emissions: From Sulfur Dioxide to Carbon Dioxide." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53(2): 479-494.
45. "The Challenges Associated with a Nuclear Power Revival: Its Past." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (1): 193-211.
46. "Deregulation of Generating Assets and The Disposition of Excess Deferred Federal Income Taxes: A 'Catch-22' for Ratepayers." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 873-891.
47. "Will Competitive Bidding Make a Comeback?" (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 659-674

48. "An Electric Utility's Exposure to Future Environmental Costs: Does It Matter? You Bet!" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 457-469.
49. "White Paper or White Flag: Do FERC's Concessions Represent A Withdrawal from Wholesale Power Market Reform?" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 197-207.
50. "Clear Skies" or Storm Clouds Ahead? The Continuing Debate over Air Pollution and Climate Change" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 51: 823-848.
51. "Economic Displacement Opportunities in Southeastern Power Markets." (2003). With Dmitry V. Mesyazhinov. *USAEE Dialogue*. 11: 20-24.
52. "What's Happened to the Merchant Energy Industry? Issues, Challenges, and Outlook" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 51: 635-652.
53. "Is There a Role for the TVA in Post-Restructured Electric Markets?" (2002). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 51: 433-454.
54. "The Role of Alaska North Slope Gas in the Southcentral Alaska Regional Energy Balance." (2002). With William Nebesky and Dmitry Mesyazhinov. *Natural Gas Journal*. 19: 10-15.
55. "Standardizing Wholesale Markets For Energy." (2002). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 51: 207-225.
56. "Do Economic Activities Create Different Economic Impacts to Communities Surrounding the Gulf OCS?" (2002). With Williams O. Olatubi. *IAEE Newsletter*. Second Quarter: 16-20.
57. "Will Electric Restructuring Ever Get Back on Track? Texas is not California." (2002). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 50: 943-960.
58. "An Assessment of the Role and Importance of Power Marketers." (2002). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 50: 713-731.
59. "The EPA v. The TVA, et. al. Over New Source Review." (2001) With K.E. Hughes, II. *Oil, Gas and Energy Quarterly*. 50:531-543.
60. "Energy Policy by Crisis: Proposed Federal Changes for the Electric Power Industry." (2001). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 50:235-249.
61. "A is for Access: A Definitional Tour Through Today's Energy Vocabulary." (2001). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 49:947-973.
62. "California Dreaming: Are Competitive Markets Achievable?" (2001). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 49: 743-759.
63. "Distributed Energy Must Be Watched As Opportunity for Gas Companies." (2001). With Martin Collette, and Ritchie D. Priddy. *Natural Gas Journal*. January: 9-16.
64. "Clean Air, Kyoto, and the Boy Who Cried Wolf." (2000). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. December: 529-540.
65. "Energy Conservation Programs and Electric Restructuring: Is There a Conflict?" (2000). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. September: 211-224.

66. "The Post-Restructuring Consolidation of Nuclear-Power Generation in the Electric Power Industry." (2000) With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 49: 751-765.
67. "Issues and Opportunities for Small Scale Electricity Production in the Oil Patch." (2000). With Ritchie D. Priddy. *American Oil and Gas Reporter*. 49: 78-82.
68. "Distributed Energy Resources: The Next Paradigm Shift in the Electric Power Industry." (2000). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 48:593-602.
69. "Coming to a neighborhood near you: the merchant electric power plant." (1999). With K.E. Hughes II. *Oil, Gas, and Energy Quarterly*. 48:433-441.
70. "Slow as molasses: the political economy of electric restructuring in the south." (1999). With K.E. Hughes II. *Oil, Gas, and Energy Quarterly*. 48: 163-183.
71. "Stranded investment and non-utility generation." (1999). With Michael T. Maloney. *Electricity Journal*. 12: 50-61.
72. "Reliability or profit? Why Entergy quit the Southwest Power Pool." (1998). With Fred I. Denny. *Public Utilities Fortnightly*. February 1: 30-33.
73. "Electric utility mergers and acquisitions: a regulator's guide." (1996). With Kimberly H. Dismukes. *Public Utilities Fortnightly*. January 1.

#### **PUBLICATIONS: OPINION AND EDITORIAL ARTICLES**

1. "Irreparable changes are coming to American oil and gas industry". (2020). *10/12 Industry Report. Baton Rouge Business Report*, Q1.
2. "An exceptionally uncertain time for energy markets." (2019). *10/12 Industry Report. Baton Rouge Business Report*, Q4.
3. "LNG's changing fortunes." (2019). *10/12 Industry Report. Baton Rouge Business Report*, Q3.
4. "A tenuous recovery." (2019). *10/12 Industry Report. Baton Rouge Business Report*, Q2.
5. "The 2019 Gulf Coast Energy Outlook." (2019). *10/12 Industry Report. Baton Rouge Business Report*, Q1.
6. "Why an offshore recovery may never happen." (2018). *10/12 Industry Report. Baton Rouge Business Report*, Q4.
7. "The dangers of trade protectionism for Louisiana energy development." (2018). *10/12 Industry Report. Baton Rouge Business Report*, Q3.
8. "The irrelevance of energy dominance." (2018). *10/12 Industry Report. Baton Rouge Business Report*, Q2.
9. "The whys and hows of maintaining the oil price rise." (2018). *10/12 Industry Report. Baton Rouge Business Report*, Q1.
10. "Taxing energy infrastructure." (2017). *10/12 Industry Report. Baton Rouge Business Report*. Q:4.
11. "A summer of discontent." (2017). *10/12 Industry Report. Baton Rouge Business Report*. Q:3.

12. "Low cost hydrocarbons continue to benefit the Gulf Coast." (2017). *10/12 Industry Report*. Baton Rouge Business Report. Q:2.
13. "Reading the tea leaves for 2017's crude oil markets." (2017). *10/12 Industry Report*. Baton Rouge Business Report. Q:1.
14. "The unappreciated role of energy infrastructure." (2016). *10/12 Industry Report*. Baton Rouge Business Report. Q:4.
15. "Other ways in which the energy world is changing." (2016). *10/12 Industry Report*. Baton Rouge Business Report. Q:3.
16. "Are oil prices bouncing back?" (2016). *Baton Rouge Business Report*, May 10 edition. (reprint of Industry Report article).
17. "Are we there yet? Have energy prices started to rebound?" (2016). *10/12 Industry Report*. Baton Rouge Business Report. Q:2.
18. Challenging Times for the South Louisiana Energy Economy. (2016). *10/12 Industry Report*. Baton Rouge Business Report. Q:1.
19. "Reading the Signs for the Energy Complex" (2015). *10/12 Industry Report*. Baton Rouge Business Report. Q:1.
20. "Louisiana's Export Opportunities." (2015). *10/12 Industry Report*. Baton Rouge Business Report. September, 15.
21. "Don't Kill Hydraulic Fracturing: It's the Golden Goose." (2015). *Mobile Press Register*. May 22. Also carried by Alabama Media Group and the following newspapers: *Birmingham News*, *Huntsville Times*, and *Birmingham Magazine*.
22. "The Least Effective Way to Invest in Green Energy." (2014). *Wall Street Journal*. Journal Reports: Energy. New York: Dow Jones & Company, October 2.
23. "Stop Picking Winners and Losers." (2013). *Wall Street Journal*. Journal Reports: Energy. New York: Dow Jones & Company, June 18.

#### **PUBLICATIONS: REPORTS AND OTHER MANUSCRIPTS (2017-Current)**

1. *Use and Limits of Ecosystem Services Valuations in the Gulf of Mexico*. With Brian Snyder, Valentine Gomez, and Sid Narra. (2020). New Orleans (LA): Department of the Interior, Bureau of Ocean Energy Management. Contract No.: M17AC00018, Report No.: OCS Study BOEM 2020-0xx. 80 Pp.
2. *2021 Gulf Coast Energy Outlook*. (2020). With Gregory B. Upton. Baton Rouge, LA: LSU Center for Energy Studies, November 2020, 29 Pp.66.
3. *2020 Gulf Coast Energy Outlook*. (2019). With Gregory B. Upton. Baton Rouge, LA: LSU Center for Energy Studies, Fall 2019, 29 Pp.
4. *The Urgency of PURPA Reform to Assure Ratepayer Protection*. (2019). Institute of Energy Research, 24 Pp.
5. *Integrated carbon capture and storage in the Louisiana chemical corridor*. (2019). With Mehdi Zeidouni, Muhammad Zulqarnain, Richard G Hughes, Keith B Hall, Brian F. Snyder, Michael Layne, Juan M Lorenzo, Chacko John, Brian Harder. National Energy Technology Laboratories/U.S. Department of Energy. 151 Pp.

6. *Actual Benefits of Distributed Generation in Mississippi.* (2019). Report prepared on the behalf of the Mississippi Public Service Commission. 191 Pp.
7. *2019 Gulf Coast Energy Outlook.* (2018). Baton Rouge, LA: LSU Center for Energy Studies, Fall 2018, 28 pp.
8. *MISO Grid 2033: Preparing for the Transmission Grid of the Future.* (2018). Baton Rouge, LA: LSU Center for Energy Studies, May 7, 87 pp.
9. *Opportunities and challenges in using industrial CHP as a resiliency measure in Louisiana.* (2017). Baton Rouge, LA: Louisiana Department of Natural Resources, December 17, 52 pp.
10. *Efficiency and emissions reduction opportunities at existing Louisiana combined heat and power applications.* (2017). Baton Rouge, LA: Louisiana Department of Natural Resources, December 17, 44 pp.
11. *Louisiana industrial combined heat and power applications: status and operations.* (2017). Baton Rouge, LA: Louisiana Department of Natural Resources, December 17, pp. 54.
12. *The potential economic impacts of the Washington Parish Energy Center.* (2017). With Gregory B. Upton, Jr. Report prepared on behalf of Calpine Corporation. 5 pp.
13. *Economic impact and re-employment assessment of PES Philadelphia refining complex.* (2017). Report prepared on the behalf of Philadelphia Energy Solutions. August 31, 43 pp.
14. *The potential economic impacts of the Bayou Bridge Project.* (2017). With Gregory B. Upton, Jr. Report prepared on behalf of Energy Transfer, LLC. 23 pp.
15. *Gulf Coast energy outlook (2017).* With Christopher Coombs, Dek Terrell, and Gregory B. Upton. Center for Energy Studies/Applied Economics Group, 18 pp.
16. *Potential economic impacts of the Lake Charles methanol project.* (2017). Report prepared on behalf of the Lake Charles Methanol Project, LLC. 68 pp.

#### **GRANT RESEARCH (2017-Current)**

1. *Co-investigator.* Estimating offshore Gulf of Mexico carbon capture, sequestration, and utilization opportunities. (2018). With Southern States Energy Board, Advanced Resources International, Argonne Laboratories, University of Alabama, University of South Carolina, and Oklahoma State University. U.S. Department of Energy, National Energy Technology Laboratory. \$731,031 (LSU share of \$4.0 million project, three years, in progress).
2. *Co-Principal Investigator.* Planning Grant: Engineering Research Center for Resiliency Enhancement and Disaster-Impact Interception ("READII") in the Manufacturing Sector. (2018). With Mahmoud El-Halwagi, Mark Stadtherr, Heshmat Aglan, Efstratos Postikopoulos. National Science Foundation (#1840512). Total Funding: \$100,000 (one year). Status: Completed.
3. *Principal Investigator.* Understanding MISO long term infrastructure needs and stakeholder positions. (2017). Midcontinent Independent System Operator. Total Project: \$9,500, six months. Status: Completed.

4. *Principal Investigator.* Offshore oil and gas activity impacts on ecosystem services in the Gulf of Mexico. (2017). With Brian F, Snyder. U.S. Department of the Interior, Bureau of Ocean Energy Management. Total Project: \$240,982, two years. Status: In Progress.
5. *Principal Investigator.* Economic Impacts of the Bayou Bridge pipeline. (2017). With Gregory B, Upton, Jr., Energy Transfer Corporation. \$9,900. Status: Completed.
6. *Principal Investigator.* Integrated carbon capture, storage and utilization in the Louisiana chemical corridor. (2017). U.S. Department of Energy/National Energy Technology Laboratory. Total funding: \$1,300,000 (18 months). Status: In progress

#### **ACADEMIC CONFERENCE PAPERS/PRESENTATIONS (2017-Current)**

1. "The changing nature of Gulf of Mexico energy infrastructure." (2017). Session 3B: New Directions in Social Science Research. 27<sup>th</sup> Gulf of Mexico Region Information Technology Meetings. U.S. Department of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program. New Orleans, LA. August 24.
2. "Capacity utilization, efficiency trends, and economic risks for modern CHP installations." (2017). U.S. Department of Energy, 2017 Industrial Energy Technology Conference, New Orleans, LA June 21.

#### **ACADEMIC SEMINARS AND PRESENTATIONS (2017-Current)**

1. Panelist. "Fuel Security, Resource Adequacy & Value of Transmission." (2019). 6<sup>th</sup> Annual Electricity Dialogue at Northwestern University: Energy and Capacity: Transitions? Northwestern University Center of Law, Regulation, and Economic Growth.

#### **PROFESSIONAL AND CIVIC PRESENTATIONS (2017-Current)**

1. "Natural gas outlook, 2021: production, demand, pandemic and policy." (2021). National Association of State Utility Consumer Advocates ("NASUCA") Monthly Natural Gas Committee Webinar. January 20, 2021.
2. "Consumer Perspectives on the Rate Design of the Future." (2020). National Association of State Utility Consumer Advocates ("NASUCA"). Annual Conference, November 10.
3. "Evaluation of Louisiana's Depleted Gas Reservoirs for Geological Carbon Sequestration." (2020). Louisiana Mid-Continent Oil and Gas Association ("LMOGA") Carbon Capture and Underground Storage ("CCUS") Committee Meeting. August 25.
4. "The 2020 Gulf Coast Energy Outlook: COVID-19 update." (2020). Baton Rouge Area Chamber of Commerce Business Webinar. COVID-19 and Global Supply Impacts on the Capital Region and Louisiana Economies. Baton Rouge, LA. June 3.
5. "Ratepayer benefits of reforming PURPA". (2020). Harvard Electricity Policy Group Webinar. PURPA: A time to reform or reduce its role? March 26.
6. "Pipeline industry: economic trends and outlook". (2020). Joint Industry Association Annual Meeting. Louisiana Mid-Continent Oil and Gas Association ("LMOGA") and the Louisiana Oil and Gas Association ("LOGA"). Lake Charles, LA March 5.
7. "The outlook for natural gas: storm clouds ahead?" (2020). National Association of State Utility Consumer Advocates ("NASUCA"). Natural Gas Committee Webinar, February 26.

8. "The 2020 Gulf Coast Energy Outlook". (2020). University of Louisiana Lafayette, Southern Unconventional Resources Center for Excellence. Lafayette, LA February 16.
9. "Opportunities for carbon capture, utilization, and storage in the Louisiana chemical corridor". (2020). Air and Waste Management Association, Louisiana Section Luncheon. Gonzales, LA January 16.
10. Panelist. (2020). Baton Route Advocate, 2020 Economic Outlook Summit. Baton Rouge Advocate. January 8.
11. "2020 Louisiana business climate outlook: the view from the energy sector." (2019). American Council of Engineering Companies Fall Conference. November 21, 2019. Baton Rouge, LA
12. "The urgency of PURPA reform in protecting ratepayers." (2019). Americans for Tax Reform, Fall 2019 Coalition Leaders Summit, November 14, 2019. New Orleans, LA.
13. "Louisiana's coast and the energy industry." (2019). 2019 API Delta Chapter Joint Society Luncheon Meeting. November 12, 2019, New Orleans, LA.
14. "Reforming PURPA: implications for ratepayers." (2019). Thomas Jefferson Institute for Public Policy, Annual Energy Summit, State Policy Network Annual Meeting. Colorado Springs, CO, October 28.
15. "Natural gas outlook: supply, demand and prices." (2019). National Association of State Utility Consumer Advocates, Natural Gas Committee Monthly Meeting. July 30, 2019.
16. "The economic impacts and outlook for LNG development on the Gulf Coast." (2019). 73<sup>rd</sup> Annual Meeting of the Southern Legislative Conference of the Council of State Governments. New Orleans, LA, July 14. (prepared presentation, hurricane cancellation)
17. "Natural gas outlook: supply, demand, and prices." (2019). NASUCA Mid-Year Meeting. Portland, OR, June 20.
18. "Overview of Louisiana LNG issues and trends." (2019). Berlin: LNG, Energy Security, and Diversity Reporting Tour, LSU Center for Energy Studies. Baton Rouge, LA, May 9.
19. "Overview of Louisiana energy issues and outlook." (2019). Australian Media Visit, Greater New Orleans, Inc./Baton Rouge Area Foundation. Baton Rouge, LA, April 29.
20. "Gulf Coast Energy Outlook 2019: Regional trends and outlook." (2019). Women's Energy Network. Baton Rouge, LA, April 23.
21. "MISO Grid Vision 2033." (2019). 2019 Spring Regulator and Policymaker Forum. New Orleans, LA, April 15-16.
22. "Ratepayer benefits of reforming PURPA." (2019). LSU Center for Energy Studies Industry Advisory Council Meeting. March 27.
23. "Incentives, risk, and the changing nature of regulation." (2019). NASUCA Water Committee monthly meeting/webinar. March 13.
24. "Gulf Coast Energy Outlook 2019: Production, trade and infrastructure trends." (2019). 66<sup>th</sup> Annual Mineral Board Institute Meetings. Baton Rouge, LA, March 14.
25. "A golden age: energy outlook 2019." (2019). Engineering News Record Webinar. February 13.

26. Panelist. (2019). Baton Route Advocate, 2019 Economic Outlook Summit. Baton Rouge Advocate. January 8.
27. "MISO Grid Vision 2033." (2018). 2018 Winter Regulatory and Policymaker Forum. New Orleans, LA, December 11.
28. "Gulf Coast Energy Outlook 2019." (2018). LSU Center for Energy Studies, Baton Rouge, LA, Fall 2018.
29. "How LNG is transforming Louisiana's energy economy." (2018). Louisiana State Bar Association, Public Utility Section. Baton Rouge, LA, November 30.
30. "Overview of Louisiana LNG issues and trends." (2018). Kean Miller Law Firm: Energy and Environmental Practice Group. Baton Rouge, LA, November 28.
31. "Infrastructure and capacity: challenges for development." (2018). Society of Utility and Regulatory Financial Analysts (SURFA) Annual Meeting, New Orleans, LA, April 20.
32. "Louisiana industrial cogeneration trends." (2018). Annual Louisiana Solid Waste Association Conference, Lafayette, LA, March 16.
33. "Gulf Coast industrial development: overview of trends and issues." (2018). Gulf Coast Power Association Meetings, New Orleans, LA, February 8.
34. "Energy outlook – reflection on market trends and Louisiana implications." (2017). IberiaBank Corporation Bank Board of Directors Meeting, New Orleans, LA. November 15.
35. "Integrated carbon capture and storage in the Louisiana chemical corridor." (2017). Industry Associates Advisory Council Meeting, Baton Rouge, LA. November 7.
36. "The outlook for natural gas and energy development on the Gulf Coast." (2017). Louisiana Chemical Association, Annual Meeting, New Orleans, LA. October 26.
37. "Critical energy infrastructure: the big picture on resiliency research." (2017). National Academies of Science, Engineering, and Medicine. New Orleans, LA. September 18.
38. "The changing nature of Gulf of Mexico energy infrastructure." (2017). 27<sup>th</sup> Gulf of Mexico Region Information Technology Meetings, New Orleans, LA, August 24.
39. "Capacity utilization, efficiency trends, and economic risks for modern CHP installations." (2017). Industrial Energy Technology Conference, New Orleans, LA. June 21.
40. "Crude oil and natural gas outlook: Where are we and where are we going?" (2017). CCREDC Economic Trends Panel. Corpus Christi, TX, June 15.
41. "Navigating through the energy landscape." (2017). Baton Rouge Rotary Luncheon. Baton Rouge, LA, May 24.
42. "The 2017-2018 Louisiana energy outlook." (2017). Junior Achievement of Greater New Orleans, JA BizTown Speaker Series. New Orleans, LA, May 12.
43. "The Gulf Coast energy economy: trends and outlook." (2017). Society for Municipal Analysts. New Orleans, LA, April 21.
44. "Gulf coast energy outlook." (2017). E.J. Ourso College of Business, Dean's Advisory Council, Energy Committee Meeting. Baton Rouge, LA, March 31.

45. "Recent trends in energy: overview and impact for the banking community." (2017). Oil and Gas Industry Update, Louisiana Bankers Association. Baton Rouge, LA, March 24.

**EXPERT WITNESS, LEGISLATIVE, AND PUBLIC TESTIMONY; EXPERT REPORTS, RECOMMENDATIONS, AND AFFIDAVITS (2017-Current)**

1. Expert Testimony. RPU-2020-0001. (2020). Before the Iowa Utilities Board. *In Re: Iowa-American Water Company*. On Behalf of the Office of Consumer Advocate. Issues: rate increase, test trackers, RSM accounting ratemaking construct.
2. Expert Testimony. BPU Docket Nos. QO19010040 and GO20090622. (2020). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of New Jersey Natural Gas Company for Approval of Energy Efficiency Programs and the Associated Cost Recovery Mechanisms Pursuant to the Clean Energy Act, N.J.S.A. 48:3-87.8 et seq. and 48:3-98.1 et seq.* On behalf of the Division of Rate Counsel. Issues: CBA requirements, capacity benefits, volatility benefits.
3. Expert Testimony. Docket No. 2020-125-E. (2020). Before the Public Service Commission of South Carolina. *In the Matter of: Application of Dominion Energy South Carolina, Incorporated for Adjustments of Rates and Charges (See Commission Order No. 2020-313)*. On Behalf of the South Carolina department of Consumer Affairs. Issues: cost of service, revenue allocation, rate design.
4. Answering Testimony. Before the United States of America Federal Energy Regulatory Commission. Docket No. RP20-614-000 and RP20-618-000. (2020). *Transcontinental Gas Pipe Line Company, LLC*. On Behalf of the North Carolina Utilities Commission. Issues: Tariff revisions, assessment of Transco claims.
5. Expert Testimony. Docket No. 16-036-FR. (2020). *Before the Arkansas Public Service Commission. In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U. Direct and Surrebuttal*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate increases, investment and expenses trends, load forecast, historic year netting adjustment, reliability issues.
6. Expert Testimony. Docket No. 2019.12.101. (2020). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Application for Approval of Capacity Resource Acquisition*. On the Behalf of the Montana Consumer Counsel. Issues: sale of capital asset, evaluation benefits, ratepayer cost exposure, reserve fund.
7. Expert Testimony. Formal Case No. 1162. (2020). Before the Public Service Commission of the District of Columbia. *In the Matter of the Application of Washington Gas Light Company for Authority to Increase Existing Rates and Charges for Gas Service*. On Behalf of the Office of the People's Counsel. Issues: rate increase, revenue adjustment, weather normalization, rate design, revenue distribution.
8. Expert Testimony. Docket No. E-01345A-19-0236. (2020). Before the Arizona Corporation Commission. *In the Matter of the Application of Arizona Public Service Company for Ratemaking Purposes to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop such Return. Direct and Surrebuttal*. On Behalf of the Utilities Division of the Arizona Corporation Commission. Issues: Cost of Service, Revenue Distribution, Rate Design.

9. Expert Testimony. Docket No. 17-010-FR. (2020). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate increase, leak replacement and reduction, netting adjustment, revenue deficiency, accounting policy changes.
10. Expert Testimony. Case No. U-20697. (2020). Before the Michigan Public Service Commission. *In the Matter of the Application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief.* On Behalf of the Michigan Department of Attorney General. Issues: cost of service, revenue distribution, rate design.
11. Expert Testimony. Docket No. 2019.09.058. (2020). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Annual PCCAM Filing and Application for Approval of Tariff Changes.* On the Behalf of the Montana Consumer Counsel. Issues: purchase power expenses, cost sharing, PCAAM power cost.
12. Expert Testimony. Formal Case No. 1156. (2020). Before the Public Service Commission of the District of Columbia. *In the matter of Potomac Electric Power Company for authority to implement a multiyear rate plan for electric distribution service in the district of Columbia.* Direct, Rebuttal, Surrebuttal, Supplemental, and Second Supplemental. On Behalf of the Office of the People's Counsel. Issues: revenue distribution, rate design, customer charge, performance metric policies, performance metric incentives.
13. Expert Testimony. Case No. U-20561. (2019). Before the Michigan Public Service Commission. *In the matter of the Application of DTE Electric Company for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.* On Behalf of the Michigan Department of Attorney General. Issues: Cost of service, allocation of production plant, allocation of sub-transmission plant, revenue distribution.
14. Expert Testimony. Cause No. 45253. (2019). Before the Indiana Utility Regulatory Commission. *Petition of Duke Energy Indiana, LLC Pursuant to Ind. Code 8-1-2-42.7 and 8-1-2-61, for (1) Authority to Modify its Rates and Charges for Electric Utility Service through a Step-In of New Rates and Charges using a Forecasted Test Period; (2) Approval of New Schedules of Rates and Charges, General Rules and Regulations, and Riders; (3) Approval of a Federal Mandate Certificate Under Ind. Code 8-1-8.4-1; (4) Approval of Revised Electric Depreciation Rates Applicable to its Electric Plant in Service; (5) Approval of Necessary and Appropriate Accounting Deferral Relief; and (6) Approval of a Revenue Decoupling Mechanism for Certain Customers Classes.* On Behalf of the Indiana Office of Utility Consumer Counsel. Issues: Decoupling, revenue decoupling mechanism and design, commission policy, benchmarking analysis.
15. Expert Testimony. Docket 19-019-U. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Petition of Entergy Arkansas, LLC for Approval of a Build-Own-Transfer Arrangement for a Renewable Resource and for all other Related Approvals.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: Solar investment, risk assessment, proposed rider.

16. Expert Testimony. Docket No. 16-036-FR. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate design, reliability, and formula rate plan.
17. Expert Testimony. Docket No. 19-019-U. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Petition of Entergy Arkansas, LLC for Approval of a Build-Own-Transfer Arrangement for a Renewable Resource and for all other Related Approvals.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: Solar project approval, ratepayer risk, cost allocation.
18. Expert Testimony. Docket No. 17-010-FR. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: retail rates, leak analysis, revenue deficiency, investments.
19. Expert Testimony. Case No. U-20471. (2019). Before the Michigan Public Service Commission. *In the matter of the Application of DTE Electric Company for approval of its Integrated Resource Plan pursuant to MCL 460.6t, and for other relief.* On Behalf of the Michigan Department of Attorney General. Issues: load forecasting, least-cost system planning.
20. Expert Report. Docket No. 18-004422. (2019). Before the State of Florida Division of Administrative Hearings. *Peoples Gas System vs. South Sumter Gas Company, LLC and the City of Leesburg.* On Behalf of the City of Leesburg. Issues: retail rates, customer growth, sales trends and forecasts, policy, cost of service, socio-economic trends and forecasts.
21. Expert Testimony. Docket Nos. GO18101112 and EO18101113. (2019). Before the New Jersey Board of Public Utilities. *In the Matter of the Public Service Electric and Gas Company for Approval of its Clean Energy Future-Energy Efficiency ("CEF-EE") Program on a Regulated Basis.* On behalf of the Division of Rate Counsel. Issues: economic impact, cost benefit analysis, decoupling mechanisms.
22. Expert Testimony. Docket Nos. EO18060629 and GO18060630. (2019). Before the New Jersey Board of Public Utilities. *In the Matter of the Public Service Electric and Gas Company for Approval of the Second Energy Strong Program (Energy Strong II).* On behalf of the Division of Rate Counsel. Issues: economic impact, cost benefit analysis, infrastructure replacement, cost recovery tracker mechanisms.
23. Expert Report. Docket No. 2011-AD-2. (2019). On Behalf of the Mississippi Public Service Commission. *Order Establishing Docket to Investigate the Development and Implementation of Net Metering Programs and Standards.* On Behalf of the Mississippi Public Utilities Staff. Issues: Net-metering, distributed generation.
24. Expert Testimony. Docket No. D2018.2.12. (2018). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Application for Authority to Increase Retail Electric Utility Service Rates and for Approval of Electric Service Schedules and Rules and Allocated Cost of Service and Rate Design.* On Behalf of the Montana Consumer Counsel. Issues: Net-metering, cost of service, revenue distribution, rate design.

25. Expert Testimony. Docket No. 19-SEPE-054-MER. (2018). Before the Kansas Corporation Commission. *In the Matter of the Joint Application of Sunflower Electric Power Corporation and Mid-Kansas Electric Company, Inc. for an Order Approving the Merger of Mid-Kansas Electric Company, Inc. into Sunflower Electric Power Corporation.* On the Behalf of the Kansas Electric Power Cooperative, Inc. Issues: merger impacts, rates, tariffs.
26. Expert Testimony. Docket No. 18-046-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Oklahoma Gas and Electric Company Pursuant to APSC Docket No. 16-052-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: formula rate plan, plant investment and expenses benchmarking analysis, reliability.
27. Expert Testimony. Docket No. 16-036-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate design, reliability, and formula rate plan.
28. Expert Testimony. Docket No. 2017-AD-0112. (2018). Before the Mississippi Public Service Commission. *In Re: Encouraging Stipulation of Matters in Connection with the Kemper County IGCC Project.* On Behalf of the Mississippi Public Utilities Staff. Issues: cost of service and rate design.
29. Expert Affidavit. Docket No. 87011-E. (2018). Before the 16<sup>th</sup> Judicial District Court Parish of St. Martin State of Louisiana. *Bayou Bridge Pipeline, LLC versus 38.00 Acres, More or Less, Located in St. Martin Parish; Barry Scott Carline, et al.* Issues: economic impacts.
30. Expert Testimony. Docket No. QO18080843. (2018). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Nautilus Offshore Wind, LLC for the Approval of the State Waters Wind Project and Authorizing Offshore Wind Renewable Energy Certificates.* On behalf of the Division of Rate Counsel. Issues: regulatory policy and cost-benefit analyses.
31. Expert Testimony. Docket No. ER18010029 and GR18010030. (2018). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Increase in Electric and Gas Rates and for Changes in the Tariffs for Electric and Gas Service, B.P.U.N.J. No. 16 Electric and B.P.U.N.J No. 16 Gas, and for Changes in Depreciation Rates, Pursuant to N.J.S.A. 48:2-18, N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Other Appropriate Relief.* On behalf of the Division of Rate Counsel. Issues: rate proposal, revenue decoupling, regulatory policy, cost benchmarking.
32. Expert Testimony. Docket No. T-34695. (2018). Before the Louisiana Public Service Commission. *In re: Application for a rate increase on service originating at Grand isle and termination at St. James for Crude Petroleum as currently outlined in LPSC Tariff No. 75.2.* On Behalf of Energy XXI GOM, LLC. Issues: cost of service, rate design, and alternative regulation.
33. Expert Testimony. Docket No. 17-071-U. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Application of Black Hills Energy Arkansas, Inc. for Approval of a General Change in Rates and Tariffs.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, billing determinates.

34. Expert Testimony. Docket No. 17-010-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filing of CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.
35. Expert Testimony. Case No. PU-17-398. (2018). Before the North Dakota Public Service Commission. *In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in North Dakota*. On Behalf of the North Dakota Service Commission Advocacy Staff. Issues: cost of service, marginal cost of service, and rate design.
36. Expert Testimony. Docket No. 20170179-GU. (2018). Before the Florida Public Service Commission. *In re: Petition for rate increase and approval of depreciation study by Florida City Gas*. On Behalf of the Citizens of the State of Florida. Issues: policy issues concerning long-term gas capacity procurement.
37. Expert Testimony. Docket No. 18-KCPE-095-MER. (2018). Before the Kansas Corporation Commission. *In the Matter of the Joint Application of Great Plains Energy Incorporated, Kansas City Power & Light Company, and Westar Energy, Inc. for Approval of the Merger of Westar, Inc. and Great Plains Energy Incorporated*. On the Behalf of the Kansas Electric Power Cooperative, Inc. Issues: merger/acquisition policy, financial risk, and ring-fencing.
38. Expert Testimony. Docket No. GR17070776. (2018). Before the New Jersey Board of Public Utilities. In the Matter of the Petition of Public Service Electric and Gas Company for Approval of the Next Phase of the Gas System Modernization Program and Associated Cost Recovery Mechanism (“GSMP II”). On behalf of the Division of Rate Counsel. Issues: economic impact, infrastructure replacement program rider, pipeline replacement, leak rate comparisons and cost benefit analysis.
39. Expert Affidavit. Case No. 18-489. (2018). Before the Civil District Court for the Parish of Orleans, State of Louisiana. *Bayou Bridge Pipeline, LLC versus The White Castle Lumber and Shingle Company Limited and Jeanerette Lumber & Shingle CO. L.L.C.* Issues: economic impact of crude oil pipeline development.
40. Expert Testimony. Docket No. 16-036-FR. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U*. On behalf of the Office of the Arkansas Attorney General Leslie Rutledge. Issue: cost of service, rate design, alternative regulation, formula rate plan.
41. Expert Testimony. Docket No. 2017-AD-0112. (2017). Before the Mississippi Public Service Commission. *In re: Encouraging Stipulation of Matters in Connection with the Kemper County IGCC Project*. On Behalf of the Mississippi Public Utilities Staff. Issues: financial analysis, rates and cost trends, economic impacts of proposal.

42. Expert Testimony. Case No. 2017-00179. (2017). Before the Public Service Commission, Commonwealth of Kentucky. *Electronic Application of Kentucky power Company For (1) A General Adjustment of Its Rates for Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs and Riders; (4) An Order Approving Accounting Practices to Establish a Regulatory Asset or Liability Related to the Big Sandy 1 Operation Rider; and (5) An Order Granting All Other Required Approvals and Relief.* On Behalf of the Office of the Kentucky Attorney General. Issues: rate design, revenue allocation, economic development.
43. Expert Testimony. Docket No. 17-010-FR. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filing of CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.
44. Expert Testimony. Formal Case No. 1142. (2017). Before the Public Service Commission of the District of Columbia. *In the Matter of the Merger of AltaGas Ltd. and WGL Holdings, Inc.* On Behalf of the Office of the People's Counsel. Issues: merger/acquisition policy, financial risk, ring-fencing, and reliability.
45. Expert Testimony. D.P.U. 17-05. (2017). Before the Massachusetts Department of Public Utilities. *Petition of NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy for Approval of an Increase in Base Distribution Rates for Electric Service Pursuant to G.L. c. 164, § 94 and 220 C.M.R. § 5.00.* On Behalf of the Massachusetts Office of the Attorney General Office of Ratepayer Advocacy. Issues: performance-based ratemaking, multi-factor productivity estimation.
46. Deposition and Testimony. (2017) Before the Nebraska Section 70, Article 13 Arbitration Panel. *Northeast Nebraska Public Power District, City of South Sioux City Nebraska; City of Wayne, Nebraska; City of Valentine, Nebraska; City of Beatrice, Nebraska; City of Scribner, Nebraska; Village of Walthill, Nebraska, vs. Nebraska Public Power District.* On the Behalf of Baird Holm LLP for the Plaintiffs. Issues: rate discounts; cost of service; utility regulation, economic harm.
47. Expert Testimony. Docket No. 16-052-U. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Application of the Oklahoma Gas and Electric Company for Approval of a General Change in Rates, Charges and Tariffs.* On the Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.

#### **REFEREE AND EDITORIAL APPOINTMENTS**

Contributor, 2014-2018, *Wall Street Journal, Journal Reports, Energy*

Editorial Board Member, 2015-2017, *Utilities Policy*

Referee, 2014-Current, *Utilities Policy*

Referee, 2010-Current, *Economics of Energy & Environmental Policy*

Referee, 1995-Current, *Energy Journal*

Contributing Editor, 2000-2005, *Oil, Gas and Energy Quarterly*

Referee, 2005, *Energy Policy*

Referee, 2004, *Southern Economic Journal*

Referee, 2002, *Resource & Energy Economics*

Committee Member, IAEE/USAEE Student Paper Scholarship Award Committee, 2003

### **PROPOSAL TECHNICAL REVIEWER**

California Energy Commission, Public Interest Energy Research (PIER) Program (1999).

### **PROFESSIONAL ASSOCIATIONS**

American Economic Association, American Statistical Association, Southern Economic Association, Western Economic Association, International Association of Energy Economists (“IAEE”), United States Association of Energy Economics (“USAEE”), the National Association for Business Economics (“NABE”), and the Energy Bar Association (National and Louisiana Chapter; current Board member of LA chapter).

### **HONORS AND AWARDS**

National Association of Regulatory Utility Commissioners (NARUC). Best Paper Award for papers published in the *Journal of Applied Regulation* (2004).

*Baton Rouge Business Report*, Selected as “Top 40 Under 40” (2003).

Omicron Delta Epsilon (1992-Current).

Interstate Oil and Gas Compact Commission (IOGCC) "Best Practice" Award for Research on the Economic Impact of Oil and Gas Activities on State Leases for the Louisiana Department of Natural Resources (2003).

Distinguished Research Award, Academy of Legal, Ethical and Regulatory Issues, Allied Academics (2002).

Florida Public Service Commission, Staff Excellence Award for Assistance in the Analysis of Local Exchange Competition Legislation (1995).

### **TEACHING EXPERIENCE**

Energy and the Environment (Survey Course)

Principles of Microeconomic Theory

Principles of Macroeconomic Theory

Lecturer, Environmental Management and Permitting. Lecture in Natural Gas Industry, LNG and Markets.

Lecturer, Electric Power Industry Environmental Issues, Field Course on Energy and the Environment. (Dept. of Environmental Studies).

Lecturer, Electric Power Industry Trends, Principles Course in Power Engineering (Dept. of Electric Engineering).

Lecturer, LSU Honors College, Senior Course on “Society and the Coast.”

Continuing Education. Electric Power Industry Restructuring for Energy Professionals.

“The Gulf Coast Energy Situation: Outlook for Production and Consumption.” Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, New Orleans, LA, December 2, 2004

“The Impact of Hurricane Katrina on Louisiana’s Energy Infrastructure and National Energy Markets.” Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, Houston, TX, September 13, 2005.

“Forecasting for Regulators: Current Issues and Trends in the Use of Forecasts, Statistical, and Empirical Analyses in Energy Regulation.” Instructional Course for State Regulatory Commission Staff. Institute of Public Utilities, Kellogg Center, Michigan State University. July 8-9, 2010.

“Regulatory and Ratemaking Issues with Cost and Revenue Trackers.” Michigan State University, Institute of Public Utilities. Advanced Regulatory Studies Program. September 29, 2010.

“Demand Modeling and Forecasting for Regulators.” Michigan State University, Institute of Public Utilities. Advanced Regulatory Studies Program. September 30, 2010.

“Demand Modeling and Forecasting for Regulators.” Michigan State University, Institute of Public Utilities, Forecasting Workshop, Charleston, SC. March 7-9, 2011.

“Regulatory and Cost Recovery Approaches for Smart Grid Applications.” Michigan State University, Institute of Public Utilities, Smart Grid Workshop for Regulators. Charleston, SC. March 7-11, 2011.

“Regulatory and Ratemaking Issues Associated with Cost and Expense Adjustment Mechanisms.” Michigan State University, Institute of Public Utilities, Advanced Regulatory Studies Program. Lansing, Michigan. September 28, 2011.

“Utility Incentives, Decoupling, and Renewable Energy Programs.” Michigan State University, Institute of Public Utilities, Advanced Regulatory Studies Program. Lansing, Michigan. September 29, 2011.

“Regulatory and Cost Recovery Approaches for Smart Grid Applications.” Michigan State University, Institute of Public Utilities, Smart Grid Workshop for Regulators. Charleston, SC. March 6-8, 2012.

“Traditional and Incentive Ratemaking Workshop.” New Mexico Public Utilities Commission Staff. Santa Fe, NM October 18, 2012.

“Traditional and Incentive Ratemaking Workshop.” New Jersey Board of Public Utilities Staff. Newark, NJ. March 1, 2013.

“Natural Gas Issues and Recent Market Trends.” Michigan State University Institute of Public Utilities, GridSchool Regulatory Studies Program, East Lansing, Mich., March 29, 2017.

“Gas Supply Planning and Procurement: Regulatory Overview and issues.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 17, 2017.

“Natural Gas Supply Issues and Challenges.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 17, 2017.

“Incentives, Risk and Changes in the Nature of Regulation.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 18, 2017.

“Traditional and Alternative Forms of Regulation: Background and Overview.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

“Traditional and Alternative Forms of Regulation: Utility and policy motivations for risk and change.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

“Traditional and Alternative Forms of Regulation: Incentives and Formula Based Methods.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

### **THESIS/DISSERTATIONS COMMITTEES**

#### Active:

1 Thesis Committee Memberships (Environmental Studies)

2 Ph.D. Dissertation Committee (Economics)

#### Completed:

8 Thesis Committee Memberships (Environmental Studies, Geography)

4 Doctoral Committee Memberships (Information Systems & Decision Sciences, Agricultural and Resource Economics, Economics, Education and Workforce Development).

2 Doctoral Examination Committee Membership (Information Systems & Decision Sciences, Education and Workforce Development)

1 Senior Honors Thesis (Journalism, Loyola University)

### **LSU SERVICE AND COMMITTEE MEMBERSHIPS**

Committee Member, Energy Education Curriculum Committee. E.J. Ourso College of Business. LSU (2016-Current).

Chairman, LSU Energy Initiative/LSU Energy Council (2014-Current).

Co-Director & Steering Committee Member, LSU Coastal Marine Institute (2009-2014).

CES Promotion Committee, Division of Radiation Safety (2006).

Search Committee Chair (2006), Research Associate 4 Position.

Search Committee Member (2005), Research Associate 4 Position.

Search Committee Member (2005), CES Communications Manager.

LSU Graduate Research Faculty, Associate Member (1997-2004); Full Member (2004-2010); Affiliate Member with Full Directional Rights (2011-2014); Full Member (2014-current).

LSU Faculty Senate (2003-2006).

Conference Coordinator. (2005-Current) Center for Energy Studies Conference on Alternative Energy.

LSU CES/SCE Public Art Selection Committee (2003-2005).

Conference Coordinator. Center for Energy Studies Annual Energy Conference/Summit. (2003-Current).

Conference Coordinator. Center for Energy Studies Seminar Series on Electric Utility Restructuring and Wholesale Competition. (1996-2003).

Co-Chairman, Review Committee, Louisiana Port Construction and Development Priority Program Rules and Regulations, On Behalf of the LSU Ports and Waterways Institute. (1997).

LSU Main Campus Cogeneration/Turbine Project, (1999-2000).

LSU InterCollege Environmental Cooperative. (1999-2001).

LSU Faculty Senate Committee on Public Relations (1997-1999).

LSU Faculty Senate Committee on Student Retention and Recruitment (1999-2003).

### **PROFESSIONAL SERVICE**

Board Member (2018). Energy Bar Association, Louisiana Chapter.

Program Committee Member (2017). Gulf Coast Power Association Conference. New Orleans, LA.

Program Committee Member (2016). Gulf Coast Power Association Conference. New Orleans, LA.

Program Committee Member (2015). Gulf Coast Power Association Workshop/Special Briefing. "Gulf Coast Disaster Readiness: A Past, Present and Future Look at Power and Industry Readiness in MISO South."

Advisor (2008). National Association of Regulatory Utility Commissioners ("NARUC"). Study Committee on the Impact of Executive Drilling Moratoria on Federal Lands.

Steering Committee Member, Louisiana Representative (2008-Current). Southeast Agriculture & Forestry Energy Resources Alliance. Southern Policies Growth Board.

Advisor (2007-Current). National Association of State Utility Consumer Advocates ("NASUCA"), Natural Gas Committee.

Program Committee Chairman (2007-2008). U.S. Association of Energy Economics ("USAEE") Annual Conference, New Orleans, LA

Finance Committee Chairman (2007-2008). USAEE Annual Conference, New Orleans, LA

Committee Member (2006), International Association for Energy Economics ("IAEE") Nominating Committee.

Founding President (2005-2007) Louisiana Chapter, USAEE.

Secretary (2001) Houston Chapter, USAEE.

Advisor, Louisiana LNG Buyers/Developers Summit, Office of the Governor/Louisiana Department of Economic Development/Louisiana Department of Natural Resources, and Greater New Orleans, Inc. (2004).